

SUPPORT FOR THE AMENDMENTS

The present amendment cancels claims 5 and 19-21, and amends claim 1. Support for the amendment to claim 1 is found at specification page 3, lines 30-31, page 7, lines 16-34, as well as original claim 5. It is believed that this amendment has not resulted in the introduction of new matter.

REMARKS

Claims 1-4, 6, 7 and 9-18 are currently pending in the present application. Claims 5 and 19-21 have been cancelled, and claim 1 has been amended, by the present amendment.

The rejections under 35 U.S.C. § 103(a) of: (1) claims 1-7 and 9-20 as being obvious over Momma (U.S. Patent 5,798,173) in view of Dyllick-Brenzinger (U.S. 6,132,558) and Smigo (U.S. Patent 5,281,307); and (2) claims 1 and 21 as being obvious over Blum (U.S. 2004/0154764, which is the English language equivalent of WO 03/016624) alone or in combination with Dyllick-Brenzinger and Smigo, are obviated by amendment with respect to claims 1-4, 6, 7 and 9-18.

Amended claim 1 now recites a process for improving the printability of paper and paper products by enhancing the water resistance of ink-jet printed images, wherein said process comprises treating the paper or the paper products with an aqueous solution comprising a cationic polymer, wherein the cationic polymer is ***a hydrolyzed homopolymer of N-vinylformamide having a degree of hydrolysis of 20-100 %*** and comprises positive charge providing units consisting essentially of vinylamine units, has a charge density of at least 3 meq/g and is used as the sole treatment composition in the aqueous solution, wherein said composition is applied in an amount of from 0.05 g/m² to 5 g/m² to the surface of the paper or the surface of the paper product.

The newly cited reference of Blum describes a paper coated with a coating slip comprising at least one optical brightener, wherein the coated paper is produced by a process comprising treating a base paper with at least one activator (e.g., N-vinylformamide), which enhances the efficiency of the optical brightener, before application of the coating slip containing the optical brightener (See e.g., abstract, [0001], [0011], [0013], [0020], [0033]). Blum describes that the degree of hydrolysis of the N-vinylformamide activator is 0-30 %, preferably 0-20 %, and more preferably 0-10 % (See e.g., [0069], [0091]). Blum only exemplifies an N-vinylformamide activator having a degree of hydrolysis of 4.3 %, 5.0 % and 5.4 % (See e.g., [0117], [0119], [0121], Table 7).

When the cited reference discloses a range that overlaps with the claimed range, but no specific examples falling within the claimed range are disclosed in the cited reference, any evidence of unexpected results achieved within the narrow range may render the claims nonobvious. See e.g., MPEP §§ 2131.03(II) and 2144.05(III), *In re Wertheim*, 191 USPQ 90, 100 (C.C.P.A. 1976), *In re Woodruff*, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990), *In re Geisler*, 43 USPQ2d 1362, 1365, 1366 (Fed. Cir. 1997) and *Iron Grip Barbell Co. v. USA Sports Inc.*, 73 USPQ2d 1225, 1228 (Fed. Cir. 2004).

Although Blum describes that the degree of hydrolysis of the N-vinylformamide activator is 0-30 %, preferably 0-20 %, and more preferably 0-10 % (See e.g., [0069], [0091]), Blum only exemplifies an N-vinylformamide activator having a degree of hydrolysis of 4.3 %, 5.0 % and 5.4 % (See e.g., [0117], [0119], [0121], Table 7). Therefore, while the presently claimed range of the degree of hydrolysis of the N-vinylformamide is encompassed within the broadly defined range of the degree of hydrolysis of the N-vinylformamide activator described Blum, Blum fails to provide specific examples falling within the claimed range.

As shown in Table 1 of the present specification, Applicants have discovered that the paper of Examples V-IX, which have been treated with a hydrolyzed homopolymer of N-vinylformamide having a degree of hydrolysis within the claimed range of 20-100 % in accordance with the claimed invention, exhibit superior properties with respect to remarkably improved water resistance and water fastness of the ink-jet printed images, as compared to the inferior properties exhibited by the paper of Comparative Example IV, which has been treated with a hydrolyzed homopolymer of N-vinylformamide having a degree of hydrolysis of only 10 %, which closely corresponds to the broadly defined and/or preferred degree of hydrolysis range described and exemplified in Blum.

Withdrawal of these grounds of rejection is respectfully requested.

In conclusion, Applicants submit that the present application is now in condition for allowance and notification to this effect is earnestly solicited.

Respectfully submitted,

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